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DEPARTMENT OF NATURAL RESOURCES
DIVISION OF OIL, GAS AND MINING

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DOGM
MINERALS PROGRAM
FILE COPY

October 30, 1989

Mr. Thomas Graham
Mine Superintendent
Hecla Mining Company
P.O. Box 2407
St. George, Utah 84771

Dear Mr. Graham:

Re: Tentative Approval of Limestone Quarry Permit Amendment & Completion of Permit Transfer Process, Apex Mine, M/053/004, Washington County, Utah

The Division has completed its technical review of Hecla Mining Company's request to initiate construction of a small (4.2 acre) limestone quarry adjacent to the existing Apex mine site. On October 10, 1989, we received supplemental information from Hecla relative to this permit amendment. This information is sufficient for the Division to issue a tentative approval for this mine plan amendment.

Tentative approval is granted with the following conditions:

1. A highwall variance is not warranted because the operator has indicated that the ultimate highwall slope angle will be at 45 degrees or less.
2. The operator will incorporate a series of benches or terraces into the quarry highwall. The highwall will be constructed with 10-20 foot bench height intervals, depending upon rock conditions encountered.
3. Upon final reclamation of the quarry, the operator will place a minimum of six (6) inches of quarry fines (or other **suitable** vegetation support material) upon the benches. This material will be appropriately amended (i.e., fertilized and mulched) and reseeded with the approved revegetation seed mixture.

We assume that you have contacted the State Division of Environmental Health regarding your proposed limestone quarry and have secured any pertinent clearances and/or permits that they may require.

Page 2
Mr. Thomas Graham
M/053/004
October 30, 1989

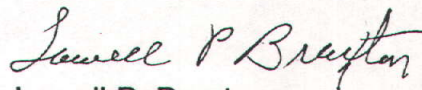
Before we can issue final approval for this amendment and complete the formal permit transfer of the Apex Mine from St. George Mining Company to Hecla Mining Company, the following information must be provided:

- A. A completed MR FORM-5, (Reclamation Bond) and Affidavit of Qualification. The Bond form should be submitted as Exhibit B to the Reclamation Contract. The Power of Attorney from the Bond carrier may be used to replace page 3 of the MR FORM-5 (Bond).
- B. A revised reclamation surety bond for the minesite in 1994 dollars. The revised reclamation surety amount totals \$44,000 in 1994 dollars. A copy of the Division's reclamation estimate is attached for your reference.
- C. A revised Reclamation Contract FORM MR-RC to reflect the changes in the disturbed area, the surety amount and Attachment A (disturbed area map).

If possible, please provide this information no later than November 15, 1989. This will assure that this action is scheduled on the agenda for the November 30, 1989, Board Hearing. If you cannot meet this deadline, please notify us as soon as possible.

Thank you for your cooperation and patience regarding completion of this permitting action. Please contact me or Wayne Hedberg should you have questions or concerns in this regard.

Sincerely,



Lowell P. Braxton
Associate Director, Mining

jb

Enclosure

cc: Ken Alkema, Environmental Health

Wayne Hedberg

Holland Shepherd

MN3/102-103

Reclamation Estimate for Hecla Mining Company
Apex Unit Washington County M/053/004

Prepared By **Utah State Division of Oil, Gas and Mining**
September 5, 1989

| Description | Quantity | Unit | \$/Unit | Cost (\$) |
|--|----------|-------------|---------|-----------|
| Mine Site Reclamation (a) | | | | |
| Break-Up/Bury Concrete Foundations | 2,000 | Square Feet | 4 | 8,000 |
| Break-Up/Bury Concrete Retaining Walls | 80 | Cubic Yards | 9 | 720 |
| Remove Trash | 4.0 | Acres | 100 | 400 |
| Install Bulkheads Inside Adits | | Lump Sum | | 2,400 |
| Install Cap on Paymaster Shaft | | Lump Sum | | 1,000 |
| Backfill Adits and Shaft | | Lump Sum | | 600 |
| Bury Rock Gabion Retaining Wall | | Lump Sum | | 3,000 |
| Regrade Pads to Prevent Erosion | | Lump Sum | | 5,000 |
| Revegetate (b) | 4.0 | Acres | 447 | 1,790 |
| Subtotal | | | | 22,910 |
| Quarry Site Reclamation | | | | |
| Regrade to Prevent Erosion (c) | 4.2 | Acres | 800 | 3,360 |
| Revegetate | 4.2 | Acres | 447 | 1,880 |
| Subtotal | | | | 5,240 |
| Other Reclamation | | | | |
| Remove Trailers and Regrade Pad | | Lump Sum | | 2,000 |
| Regrade Bone Yard | 0.5 | Acres | 800 | 400 |
| Rip Roads | 6,000 | Linear Feet | 0.70 | 4,200 |
| Revegetate | 4.0 | Acres | 447 | 1,790 |
| Subtotal | | | | 8,390 |
| Totals | | | | 36,540 |
| Add Contingency (10%) | | | | 3,650 |
| TOTAL RECLAMATION COST (1989 Dollars) | | | | 40,190 |
| TOTAL RECLAMATION COST (1994 Dollars) @ 1.93% Annual Inflation | | | | 44,000 |

- Notes:
- (a) The buildings are all constructed of prefabricated steel panels. The salvage value will exceed cost of removal. Utah Power & Light extended the power line to the minesite from the plantsite. UP&L will remove the line when it is no longer needed.
 - (b) This figure includes the revegetation of the upper mine waste dump, which slopes at the angle of repose.
 - (c) The quarry will be dug out of a steeply sloping hillside. Final reclamation will consist of slope stabilization and impoundment prevention.

Reclamation Estimate for Hecla Mining Company
Apex Unit Washington County M/053/004

Prepared By Utah State Division of Oil, Gas and Mining
 September 5, 1989

Cost Parameters Used

| | | |
|-------------------------|-----|---------|
| D-8 Dozer (O&O) | 160 | \$/hour |
| 988B Wheel Loader (O&O) | 165 | \$/hour |
| Labor Only | 24 | \$/hour |
| Farm Tractor (O&O) | 67 | \$/hour |
| Speed | 4 | mph |
| Width of Pass | 6 | feet |

| Revegetation Cost per Acre | Quantity | Unit | \$/Unit | Total Cost (\$) |
|-------------------------------------|----------|--------|---------|--------------------|
| Bare Costs | | | | |
| Fertilizer (18-46-0) | 100 | Pounds | 0.25 | 25 |
| Seed Mix | 20 | Pounds | 9 | 180 |
| Native Hay Mulch | 2 | Tons | 50 | 100 |
| Seed Mix (drilled) | 0.5 | Hours | 24 | 12 |
| Subtotal | | | | ----- 317 |
| Application Costs | | | | |
| Native Hay Mulch (spread by hand) | 3.0 | Hours | 24 | 72 |
| Native Hay Mulch (disc into ground) | 0.3 | Hours | 67 | 23 |
| Fertilizer (broadcast by hand) | 0.5 | Hours | 24 | 12 |
| Seed Mix (drilled) | 0.5 | Hours | 0 | 0 |
| Scarify (tractor with chain) | 0.3 | Hours | 67 | 23 |
| Subtotal | | | | ----- 130 |
| Total Revegetation Cost per Acre | | | | 447 REVEG |